Section 5
WPCP or SWPPP Information and NOC

5.1 Information for the WPCP or SWPPP

In addition to information shown on the project plans, the project design staff must supply certain information developed during the design process for use by the contractor via the Resident Engineer (RE) Pending File. The contractor will use this information to prepare either a WPCP or SWPPP, as appropriate. Table 5-1 identifies information to be included in the Resident Engineer Pending File for the contractor to prepare the SWPPP. These items should also be included as part of the information handout for contract advertisement.

Table 5-1

SWPPP Related Documents to Be Included in the Resident Engineer Pending File
▪ Topographic map of the project area
▪ Soils/geotechnical report, project materials report and/or other reports for description of soils types, nature of fill materials and known buried hazardous or toxic materials
▪ Pre-construction (Existing) control practices
▪ Permanent post-construction storm water control measures
▪ Other plans/permits
▪ Copy of project drainage report for identifying flow patterns and tributary areas
▪ Construction site estimates such as area calculations, runoff coefficients and pervious area calculations
▪ Copy of the submitted Notification of Construction (NOC) for the project

Some of the material listed in Table 5-1 is already required to be in the RE Pending File, but it is recommended that a second copy of the material be included specifically for SWPPP/WPCP documentation.

5.1.1 Topography Map

- Provide a map extending approximately one-quarter mile (400 meters) beyond the property boundaries of the construction site showing: the construction site, surface water bodies (including known springs and wetlands), known wells, an outline of off-site drainage areas that discharge into the construction site, general topography, and the anticipated discharge location(s) where the construction site's storm water discharges to a municipal storm drain system or other water body. It is recommended that a U.S. Geological Survey (USGS) quad map be used for

showing the project site and a one-quarter mile (400 meters) extension beyond the property boundaries of the construction site. USGS maps display much of the required information; however the map will need to be slightly modified to show anticipated drainage paths (onto and off the construction site) and construction site boundaries.

- The following are additional recommended items that should be provided on the topography map:

  – Legend

  – Measurement of the construction site area

  – Flow directions of nearby creeks, streams, and rivers

5.1.2 Soils/Geotechnical Report, Materials Report and/or Other Reports

- ***Toxic History of the Site****:* Include in the WPCP/SWPPP documents package, to the extent information is available from the soils/geotechnical report, the project materials report, site investigation report developed by the Hazardous Waste Section or other regulatory or environmental compliance documentation, a description of all toxic materials known to have been treated, stored, disposed, spilled, or leaked in significant quantities onto the construction site.

- ***The Nature of Fill Material and Existing Data Describing the Soil***: Include a copy of the project materials report (geotechnical report). The contractor must describe the conditions of the fill material and the soil that can be found at the construction site. Fill material should be described as whether it is native or non-native, contaminated or uncontaminated, and its coverage technique (i.e., native soil coverage, asphalt or concrete coverage, and/or landscape).

- ***Pre-construction Storm Water Quality Control Practices***: Provide written descriptions of existing pre-construction practices, if any, that are already in place to reduce sediment and other pollutants in storm water discharges. These permanent control practices may consist of sedimentation ponds, oil/water separators, spill containment facilities, etc. If there are no pre-construction control practices, then this should be indicated.

- ***Permanent (post-construction) Storm Water Quality Control Measures***: Provide a written listing and narrative descriptions of post-construction permanent BMPs that have been included in the project to reduce pollutants in storm water discharges. Narrative descriptions should also include operation and maintenance (O&M) procedures for the permanent BMPs, O&M short-term and long-term funding, and a statement indicating that the Maintenance Department will be responsible for O&M of the post-construction BMPs. The designer must coordinate with District Maintenance for development of special O&M procedures. Post-construction BMPs are permanent erosion and sediment control measures or other treatment control BMPs that have been incorporated into the project plans. They include the minimization of land disturbance, minimization of impervious surfaces, treatment of storm water runoff using infiltration or detention devices, use of efficient irrigation systems, and appropriately designed and constructed energy dissipation devices.

In some cases, these permanent BMPs will be oriented toward requirements of other agencies, permit conditions, or other agreements. Any BMP to be included at the request of another agency should be discussed in the RE Pending File, in order for the Contractor to use this information in preparing the SWPPP. For example, if the Department of Fish and Game required the construction of a permanent sedimentation basin, then this basin and its purpose would be described in this section. In addition, if a local agency were to require an arrangement of K-rail for the purpose of retaining sediments in a particular area, then the purposes and requirements by the agency would be described.

The following is sample post-construction requirements standard language, which should be included in the RE Pending file. This information will then be given to the Contractor for inclusion in the SWPPP:

"Post-construction (permanent) best management practices (BMPs) have been designed by Caltrans District ___. The following list describes those permanent post-construction BMPs that have been incorporated into the project. Details describing the design of each of the BMPs listed can be found by referring to the plan sheet number listed to the right of the BMP. It is anticipated that the information provided is to be used by the construction contractor in the development of the Storm Water Pollution Prevention Plan (SWPPP) for this project, but that no reduction in service life or operational characteristics shall be incurred to these BMPs by such use.

POST-CONSTRUCTION BMP	***PLAN SHEET LOCATION(S)***

After construction, projects are covered under the Caltrans Statewide NPDES Permit, Order No. 99-06-DWQ, No. CAS000003. The post-construction management plan, including BMP operating, maintenance and inspection procedures, are contained in the Caltrans Statewide Storm Water Management Plan. Any additional requirements are described in the Caltrans District Regional Workplan submitted to the Regional Water Quality Control Board.

Short-term and long-term operation and maintenance of all post-construction (permanent) storm water pollution control BMP constructed within the State right-of-way shall be funded by the District's Maintenance budget, unless other arrangements are made via a maintenance agreement. If such agreement has been entered into, a copy of the agreement in included in Appendix ___.

Use the following paragraph only if needed:
Special operating, maintenance or inspection requirements for the project after construction, have been developed by Caltrans District ___ and are shown in the Operation and Maintenance Plan dated _____, included in Appendix ___. The contact person for this maintenance plan is _____(Name and telephone number)_____."

- ***Drainage Report***: Include a copy of the drainage report or appropriate information, such as the hydrology maps, delineation of drainage boundaries, concentrations of runoff, and runoff coefficients.

- ***Construction Site Estimates***: Provide the following information to the RE Pending File:

  - An estimate of the construction site area in square meters (acres) (see Section 3.1);
  - An estimate of the runoff coefficient of the construction site before and after construction (The form shown in Table 5-2 may be used to develop the necessary information for runoff coefficients; Tables 5-2.1 and 5-2.2 provide supporting information for the calculation of runoff coefficients); and
  - An estimate of the percentage of the area of the construction site that is impervious (e.g., pavement, building, etc.) before and after construction.

- ***Other Plans/Permits***: Other agencies may have issued permits or have plan requirements for the construction of the project or imposed certain conditions. If so, a written description of the permit conditions and a copy of the permit must be provided for inclusion in an appendix to the SWPPP. Hazardous materials must be handled in accordance with specific laws and regulations and disposed of as a hazardous waste. If during the preparation of the PS&E, it is known that special permits for accomplishing disposal of hazardous waste is known, then a written explanation must be provided to the contractor to be incorporated within this section and it must be consistent with other specifications in the contract. In addition, information regarding other related permits such as California Fish and Game or U.S. Army Corps of Engineers permits should also be included.

- ***Information/Guidance for Maintenance Staff***: Many of the permanent control measures will require on-going inspection and maintenance once construction is completed and the project is operational. The design staff should assemble information to be included in the Resident Engineer Pending File to be turned over to maintenance division staff upon project close-out. This information should include O&M procedures for the permanent BMPs. Some of this information can be obtained from the Inspection and Maintenance sections of the BMPs found in Appendix B of this Guide.

5.2 Preparation and Submittal of NOC

The Permit requires that a Notification of Construction (NOC) be submitted to the appropriate RWQCB for projects with soil disturbance of at least 2 hectares (5 acres) of total land area. This NOC must be submitted at least 30 days prior to the start of construction. A copy of the NOC form and instructions to complete it can be found in Appendix A of this Handbook. The information presented below is information that designers should be aware of:

- The NOC form should be completed by the District Storm Water Coordinator, Environmental staff, Project Manager or Project Engineer, as determined by District policy, and submitted to the appropriate RWQCB at the same time the PS&E package is transmitted to the Office Engineer.

- No fees are to be to submitted to the RWQCB. A copy of the NOC should also be transmitted to the District Construction Division.

- At the time of the first submittal to the RWQCB, the District may elect to leave blank the information in Section IV, Construction Field Office, and resubmit a copy of the form with that information filled in at the time the RE is assigned. Alternately, the District may wish to fill in a contact name of someone other than the RE, such as the Area Senior Construction Engineer or Project Manager, who will remain the contact for that project until the NOC is resubmitted with the new contact information, or until the Notification of Completion is filed.

- In some cases, the RWQCB may view two (2) or more small projects (less than 5 acres of soil disturbance) in the same corridor as part of a larger common plan of development. The Project Manager should be aware of other projects in the corridor. If needed, the other projects may be mentioned in the NOC.

5.3 Storm Water Quality Information Handout for Bid Documents

As described in Section 3.8, the designer must determine if some or all of the construction site (temporary) BMPs will be individually called out in the plans and specifications. This determination is typically made by either District policy or through consultation with District Construction to identify which BMPs may be critical to the success of the construction phase water pollution control program. The Storm Water Quality (SWQ) Information Handout is intended to provide the contractor with information that substantiates the designers' generation of quantities for those individual BMPs as well as show the location of placement of the BMPs. To effectively carry this out, the SWQ Information Handout may contain:

- Layout sheets showing locations and limits for the BMP identified in the PS&E
- A brief explanation of both the permanent and construction site (temporary) BMPs that will be specified
- Any additional information the designer feels is necessary for the contractor to bid the project accurately and implement during the construction of the project.

Layout sheets showing suggested BMP locations: The purpose of these sheets is to show the contractor the designer's anticipated placement of construction site (temporary) BMPs such as contractor staging areas, approximate location of concrete washouts, approximate locations for storage of materials, and preferred locations for vehicle and equipment maintenance. These are not intended to be highly detailed drawings. Typically, these layouts can be hand-drawn on 200 scale drawings. Where multiple stages of construction are anticipated, the designer should use the stage construction sheets to show how deployment of the BMPs is expected to change over time. These locations and layouts will be, in most cases, subject to the contractors phasing of the work and timing of operations. As a result, many of the suggested locations will be modified by the contractor in their SWPPP/WPCP. The layout sheets must also contain a disclaimer stating that they show

suggested construction site (temporary) BMPs, and that the Contractor is ultimately responsible for developing a SWPPP that complies with the Permit.

Explanation of Permanent and Construction Site (Temporary) BMPs: This information would provide brief narrative explanation of the various permanent and construction site (temporary) BMPs that may be implemented in the project. The designer should identify any existing permanent BMPs that may be present within the project limits that can be used during construction, as well as identify any permanent BMPs that should be constructed early for use as a temporary BMP during construction, such as early application of permanent soil stabilization measures in areas that will no longer experience soil disturbance during construction.

Other Information: Include any other information that would explain the decisions or thought process behind the selection and deployment of the BMPs chosen by the designer. Examples include the designers estimated staging of the project and estimated time of year for those stages; any scheduling modifications included in the Order of Work specifications that were included to enhance water pollution control; and any specific BMP deployments that are considered to be critical to the success of the contractors SWPPP/WPCP.

5.4 Conceptual SWPPP/WPCP

The Caltrans NPDES permit allows any RWQCB to request submission of a SWPPP up to 30 days prior to the start of construction. In order to not delay the start of construction, the affected District will typically negotiate a process with the RWQCB to submit a Caltrans prepared "Conceptual SWPPP" (CSWPPP) about the same time as the PS&E is submitted to Office Engineer.

The CSWPPP should contain all of the elements of a contractor prepared SWPPP, but it will not replace the contractor's SWPPP. The term conceptual is used because the designer cannot be expected to know all aspects of the eventual contractor's planned order of operations, nor have knowledge of any delays that may affect the implementation of the SWPPP during construction. However, when a CSWPPP has been prepared, the designer should strongly consider making that information available to the contractor, and including much of the information on the project plans and in the SWQ Information Handout. It should be noted that the RWQCB may have specific requirements that the Project Engineer must fulfill and coordinate with the RWQCB. Details on the development and update(s) of the SWPPP and WPCP can be found in the *Caltrans Storm Water Quality Handbooks - SWPPP/WPCP Preparation Guide*.

Table 5-2

Computation Sheet for Determining Runoff Coefficients

Total Site Area	=	_____	(A)
Existing Site Conditions			
Impervious Site Area[1]	=	_____	(B)
Impervious Area Runoff Coefficient[2,4]	=	0.95	(C)
Pervious Site Area[3]	=	_____	(D)
Pervious Site Area Runoff Coefficient[4]	=	_____	(E)
Existing Site Area = (B x C) + (D x E) / A	=		
Runoff Coefficient		_____	(F)
Proposed Site Conditions (After Construction)			
Impervious Site Area[1]	=	_____	(G)
Impervious Site Runoff Coefficient[2,4]	=	0.95	(H)
Pervious Site Area[3]	=	_____	(I)
Pervious Site Area Runoff Coefficient[4]	=	_____	(J)
Proposed Site Area = (G x H) + (I x J) / A	=		
Runoff Coefficient		_____	(K)

[1]Includes paved areas, areas covered by buildings, and other impervious surfaces.
[2]Use 0.95 unless lower or higher runoff coefficients can be verified.
[3]Includes areas of vegetation, most unpaved or uncovered soil surfaces, and other pervious areas.
[4]See Table 5-2.1 and 5-2.2 for runoff coefficients.

Table 5-2.1

Runoff Coefficients for Undeveloped Areas
Watershed Types

	Extreme	***High***	***Normal***	***Low***
Relief	0.28 -0.35 Steep, rugged terrain with average slopes above 30%	0.20 - 0.28 Hilly, with average slopes of 10 to 30%	0.14 -0.20 Rolling, with average slopes of 5 to 10%	0.08 - 0.14 Relatively flat land, with average slopes of 0 to 5%
Soil Infiltration	0.12 - 0.16 No effective soil cover, either rock or thin soil mantle of negligible infiltration capacity	0.08 - 0.12 Slow to take up water, clay or shallow loam soils of low infiltration capacity, imperfectly or poorly drained	0.06 - 0.08 Normal; well drained light or medium textured soils, sandy loams, silt and silt loams	0.04 - 0.06 High; deep sand or other soil that takes up water readily, very light well drained soils
Vegetal Cover	0.12 - 0.16 No effective plant cover, bare or very sparse cover	0.08 - 0.12 Poor to fair; clean cultivation crops, or poor natural cover, less than 20% of drainage area over good cover	0.06 - 0.08 Fair to good; about 50% of area in good grassland or woodland, not more than 50% of area in cultivated crops	0.04 - 0.06 Good to excellent; about 90% of drainage area in good grassland, woodland or equivalent cover
Surface Storage	0.10 - 0.12 Negligible surface depression few and shallow; drainage-ways steep and small, no marshes	0.08 - 0.10 Low; well defined system of small drainageways; no ponds or marshes	0.06 - 0.08 Normal; considerable surface depression storage; lakes and pond marshes	0.04 - 0.06 High; surface storage, high; drainage system not sharply defined; large flood plain storage or large number of ponds or marshes

Given: An undeveloped watershed consisting of:
1) rolling terrain with average slopes of 5%,
2) clay type soils,
3) good grassland area, and
4) normal surface depressions.

Solution:

Relief	0.14
Soil Infiltration	0.08
Vegetal Cover	0.04
Surface Storage	0.06
C =	0.32

Find: The runoff coefficient, C, for the above watershed

Reference: Caltrans Highway Design Manual, July 1995

Table 5-2.2

Runoff Coefficients for Developed Areas	
Type of Drainage Area	***Runoff Coefficient***
Business:	
Downtown areas	0.70 - 0.95
Neighborhood areas	0.50 - 0.70
Residential:	
Single-family areas	0.30 - 0.50
Multi-units, detached	0.40 - 0.60
Multi-units, attached	0.60 - 0.75
Suburban	0.25 - 0.40
Apartment dwelling areas	0.50 - 0.70
Industrial:	
Light areas	0.50 - 0.80
Heavy areas	0.60 - 0.90
Parks, cemeteries:	0.10 - 0.25
Playgrounds:	0.20 - 0.40
Railroad yard areas:	0.20 - 0.40
Unimproved areas:	0.10 - 0.30
Lawns:	
Sandy soil, flat, 2%	0.05 - 0.10
Sandy soil, average, 2-7%	0.10 - 0.15
Sandy soil, steep, 7%	0.15 - 0.20
Heavy soil, flat, 2%	0.13 - 0.17
Heavy soil, average, 2-7%	0.18 - 0.25
Heavy soil, steep, 7%	0.25 - 0.35
Streets:	
Asphaltic	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Drives and walks	0.75 - 0.85
Roofs:	0.75 - 0.95

Reference: Caltrans Highway Design Manual, July 1995